Chapter 3

Requirements to Capabilities

The U.S. naval services—the Navy/Marine Corps team and their Reserve components—possess three characteristics that differentiate us from America's other military services and make us *a uniquely powerful instrument of national policy and will*. First, we operate from the sea, with all of the opportunities for strategic maneuver, operational flexibility, and tactical agility that the sea provides. Second, we are expeditionary. When our ships, aircraft, Sailors, and Marines deploy around the globe, they carry with them what they need to accomplish the mission at hand—with or without host-nation support. Third, in an age of inter-service and coalition interoperability, the Navy and Marine Corps are linked much more closely than the other armed services—Army, Air Force, and Coast Guard—in strategy, doctrine, tactics, training, and operations. All come together to ensure the Navy's ability to carry out Sea Strike, Sea Shield, and Sea Base operations. As the Chief of Naval Operations' *Sea Power 21… A Naval Vision* states, "In a world of violent horizons, the Navy/Marine Corps team will serve America: anywhere, anytime, around the world, around the clock."
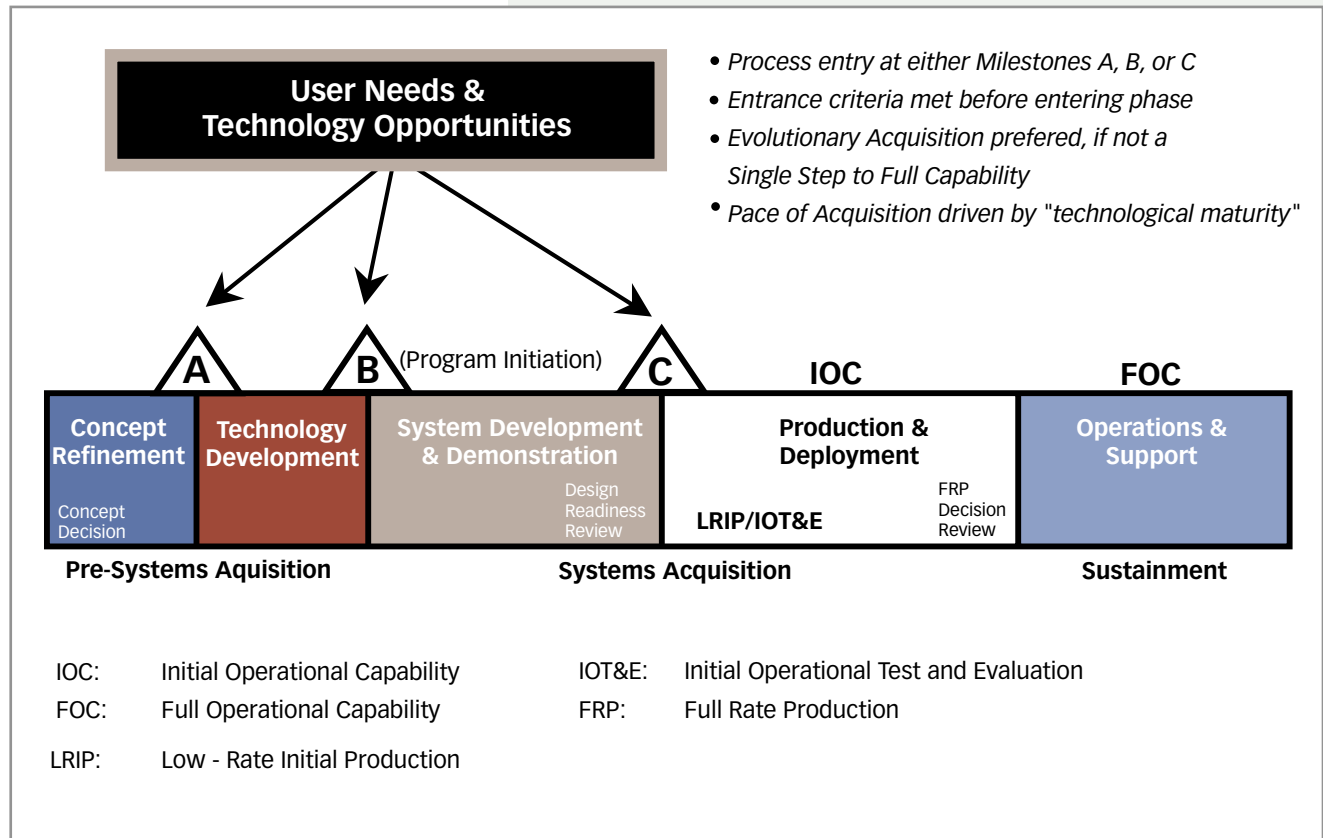
DEPARTMENT OF DEFENSE ACQUISITION

The Under Secretary of Defense for Acquisition, Technology, and Logistics—USD (AT&L)—has established a defense acquisition policy directing the service secretaries and Defense Department component heads to execute a single, standardized Defense Department-wide acquisition system. Program costs determine Acquisition Categories (ACAT I and II), with ACAT I having the most significant resource needs.

In October 2002, the Deputy Secretary of Defense canceled the DoD system acquisition directives and instructions and replaced them with a policy to create an acquisition environment that fosters efficiency, flexibility, creativity, and innovation. This streamlined process replaces the prescriptive procedures of the Defense Acquisition System Directive (DoDD 5000.1) and the instruction for the Operation of the Defense Acquisition System (DoDI 5000.2). This action also canceled DoD 5000.2-R, replacing it with a guidebook. The new policy and procedures promote evolutionary acquisition, give precedence to performance-based acquisitions and logistics strategies, and emphasize rapid delivery of affordable and sustainable warfighting capability.

Figure 8: DoDI 5000.2, The New DoD 5000 Model

User Needs & Technology Opportunities

- *Process entry at either Milestones A, B, or C*
- *Entrance criteria met before entering phase*
- *Evolutionary Acquisition prefered, if not a Single Step to Full Capability*
- *Pace of Acquisition driven by "technological maturity"*

A   B (Program Initiation)   C   IOC   FOC

| Concept Refinement | Technology Development | System Development & Demonstration | Production & Deployment | Operations & Support |

Concept Decision

Design Readiness Review

LRIP/IOT&E

FRP Decision Review

Pre-Systems Aquisition   **Systems Acquisition**   **Sustainment**

IOC:	Initial Operational Capability	IOT&E:	Initial Operational Test and Evaluation
FOC:	Full Operational Capability	FRP:	Full Rate Production
LRIP:	Low - Rate Initial Production		

The new policy and guidebook, illustrated in Figure 8, serve to:

> Define two development processes to implement the evolutionary acquisition strategy: Incremental Development in which the end-state requirement is known and the requirement will be met over time in several increments; and Spiral Development in which the desired capability is identified, but end-state requirements are not known at Program Initiation. Requirements for future increments are dependent upon technology maturation and user feedback from initial increments.

> Create an initiative to develop joint integrated architectures based on operational, system, and technical views. The operational view describes the joint capabilities that the user seeks and how to employ them; the systems view characterizes the available technology and systems functionality, and identifies the kinds of systems and integration needed to achieve the desired operational capability; the technical view consists of standards that define and clarify individual systems' technical and integration requirements. Integrated architectures provide the construct for analysis to optimize competing demands.

> Rename and split the Concept and Technology Development Phase as Concept Exploration and Technology Development.

> Replace the Interim Progress Review with the Design Readiness Review.

> Provide for "special interest" as a determination for program ACAT I designation. Special interest includes those programs that have significant technology complexity, congressional interest, and resource implications; are critical to achievement of a capability or set of capabilities; or are joint programs. ACAT I program designation is determined by program cost, estimated by the USD(AT&L), to require eventual total RDT&E expenditure in FY 2000 constant dollars of more than $365 million, or procurement of more than $2.19 billion, or by identification as a "special interest" item by the USD(AT&L).

> Incorporate "materiel" in the analysis of doctrine, organization, training, materiel, leadership, personnel, and facilities (DOTMLPF) factors from "Joint Vision 2020."

> Reinforce the necessity to design and operationally sustain weapon systems in synchronization with applicable environmental requirements.

> Reflect Joint Chiefs of Staff policy (CJCSI 3170 series) to replace the Mission Need Statement (MNS) and Operational Requirements Document (ORD) with new documents under the Joint Capabilities Integration and Developmental System (JCIDS). These documents are called the Initial Capabilities Document (ICD), Capabilities Development Document (CDD), and the Capabilities Production Document (CPD). The ICD replaces the MNS at Milestone A. The ICD captures capability shortfalls in

terms of broad, time-phased operational goals, and describes requisite capabilities. The common element is capabilities that may be required to resolve a shortfall in warfighting ability and accommodate technology break-throughs or intelligence discoveries. The ICD is to include an analysis of capability solution sets. Capabilities are to be conceived and developed in an integrated joint warfighting context. The CDD replaces the ORD at Milestone B, supporting subsequent program initiation and refining the integrated architecture. Each CDD will have a set of validated key performance parameters (KPPs) that will apply only to that increment of the evolutionary acquisition strategy. The CPD (updated CDD) replaces the ORD at Milestone C. The common element is a focus on capabilities that may be required to resolve a shortfall in warfighting capability or to accommodate technology breakthroughs or intelligence discoveries.

> Create an Information Technology Acquisition Board (ITAB) to replace the Defense Acquisition Board for review of major automated information system (ACAT IAM) programs.

The descriptive summaries of the programs addressed throughout Chapter 3 will refer to the current acquisition phase of each program and/or the last milestone it passed, as follows:

Concept and Technology Development (Milestone A) is the pre-systems acquisition phase in which initial concepts are refined and technical risk is reduced. Two major efforts that may be undertaken in this phase are Concept Exploration or Technology Development. Concept Exploration consists of short-term concept studies to refine and evaluate alternative solutions to the initial concept and provide a basis for assessing the merits of these alternatives. Technology Development is an iterative discovery and development process designed to assess the viability of technologies while refining user requirements.

Systems Development and Demonstration (Milestone B) is the phase in which a system is developed. Work in this phase includes reduction of integration and manufacturing risk, while ensuring operational supportability, human systems integration, and producibility design. Demonstration of system integration, interoperability, and utility completes this phase.

Production and Deployment (Milestone C) is the phase in which Operational Test and Evaluation (OT&E) are conducted to determine system effectiveness, suitability, and survivability. The Milestone Decision authority may make a decision to commit to production at Milestone C, either through Low-Rate Initial Production (LRIP) or major defense acquisition programs or Full Production (FP) or procurement for non-major systems.

NAVY DEPARTMENT ACQUISITION

The readiness and warfighting requirements that shape the Navy/ Marine Corps Team's acquisition and investment strategies originate with the operating forces and their operational representative (e.g., OPNAV). The execution of these strategies — to develop, acquire, and support a modern, technologically superior, ready force structure — is the responsibility of the Navy's Systems Commands, Direct-Reporting Program Managers (DRPMs), and Program Executive Officers (PEOs). The inset text-box lists key Navy organizations that work with industry on behalf of the Office of the Chief of Naval Operations and the operating forces to develop, test, acquire, and deliver operationally superior and affordable ships and aircraft, combat systems, related equipment, life-cycle support, ashore facilities and installations, and supplies to the Fleet.

As the stewards of the Navy's acquisition and total ownership/ life-cycle processes, Systems Commands, DRPMs, and PEOs are responsible for furnishing high-quality yet affordable technologies, systems, platforms, training, and support on par with requirements and priorities of the operating forces; they are critical links in assuring the necessary high return for America's tax dollars. The Navy continues to effect fundamental changes to the way these organizations operate in order to support most effectively and efficiently the Navy's operating forces. Given the expected environment of constrained resources, the ability to be both smart buyers and smart supporters of the Navy's hardware — to embrace best business practices and the tools needed to design, engineer, acquire and sustain the needed equipment—will be a key element in keeping America's naval expeditionary forces capable and ready to meet all challenges of the 21st Century.

For this reason, the CNO's Sea Enterprise initiative is being led by the Vice CNO and directly involves the Navy Headquarters, the Systems Commands, and the Fleet. The goals are to increase organizational alignment, refine requirements, and reinvest savings to buy the platforms and systems that will transform the Navy. Sea Enterprise will reduce overhead, streamline processes, substitute technology for manpower in a way that will ensure the human warfighter is a key element of the equation, and create incentives for positive change.

The following pages of this chapter provide program summaries of important elements of the Navy's investments to meet national needs and to continue its transformation for the future.

U.S. Navy Systems Commands, Direct-Reporting Program Managers, and Program Executive Officers—

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Naval Air Systems Command

Naval Facilities Engineering Command

Naval Sea Systems Command

Naval Supply Systems Command

Space and Naval Warfare Systems Command

PEO Air Anti-Submarine Warfare, Assault, and Special Mission Programs

PEO Aircraft Carriers

PEO C4I and Space

PEO Information Technology

PEO Integrated Warfare Systems

PEO Joint Strike Fighter

PEO Littoral and Mine Warfare

PEO Strike Weapons and Unmanned Aviation

PEO Ships

PEO Space Systems

PEO Submarines

PEO Tactical Aircraft Programs

Director, Navy-Marine Corps Intranet

DRPM Advanced Amphibious Assault Vehicle

DRPM Distributed Common Ground System - Navy

DRPM Enterprise Resource Planning

DRPM Navy/Marine Corps Intranet Chief Engineer

DRPM Strategic Systems Programs